

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Attorney Docket No.: 3275.06US03

Horne et al.

Confirmation No.: 1933

Application No.: 10/822,642

Examiner: John M. Hoffman

Filed: April 12, 2004

Group Art Unit: 1791

For: OPTICAL FIBER PREFORMS

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

REPLY BRIEF FOR APPELLANT

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REPLY BRIEF

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Commissioner for Patents  
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Sir:

INTRODUCTORY COMMENTS

In response to the Examiner's Answer dated September 17, 2008, Appellant submits the following additional comments. Appellant addresses only some of the clear errors of law and errors of facts presented in the Examiner's Answer. The remaining issues are discussed in detail in Appellant's Brief.

*Please grant any extension of time necessary for entry; charge any fee due to Deposit Account No. 50-3863.*

## CERTIFICATE OF ELECTRONIC TRANSMISSION

I hereby certify that this paper is being transmitted electronically to the U.S. Patent and Trademark Office on the date shown below.

November 17, 2008  
Date

/Elizabeth Q. Shipsides/  
Elizabeth Q. Shipsides

### Status of the Claims

On page 2 of the Examiner's Answer, the Examiner indicated that ""The second listing grounds of rejection should not include claim 44." Since the first ground of rejection has been withdrawn, it would seem then that claim 44 is allowable. Appellant respectfully request clarification of the status of claim 44.

### Evidence Included with the Main Brief

The Examiner asserted on page 11 of the Examiner's Answer that the Evidence Appendix did not include pages from the Webster's Dictionary or a copy of WO 02/32588. The Dictionary issue is moot since this evidence related to the section 112, second paragraph, which has been withdrawn. With respect to WO 02/32588, this application was referred to in the brief only to put the analysis in context. It was not specifically recited for evidence in specific text of the PCT application.

### Errors of Fact and Law Relating to the Coating Density

The Examiner concluded that the feature "the coating having a fully densified mass density, wherein the coating has an average density that is a factor within the range from about 0.02 to about 0.55 of the fully densified mass density" was obvious based on clear errors of fact and law. The Examiner acknowledges on page 6 that none of the references teach a density within the claimed range. The Examiner proceeds to argue inherency with respect to a material having a density between 0 and 1. The Examiner also asserts that the claimed range covers more than half of the physical range. However, it is a clear error of law to not have put this analysis in the context of the claimed subject matter. An analysis for obviousness under the KSR/Graham

structure requires an analysis of the claimed subject matter as a whole in view of the teachings of the cited references as a whole. The Examiner's abstract analysis is not relevant to a finding of obviousness.

On page 6 of the Examiner's Answer, the Examiner stated "However it is inherent that it cannot be lower than 0 nor higher than 1.00. Nothing (solid) can have a density of less than 0, nor can anything have a density higher than 100% of its fully densified mass. Thus, Hicks's coating is between 0 and 1.00. The claim range 0.02 – 0.55 covers half of the 0 – 1.00 range." This statement is misleading and reflects clear factual and legal errors. Hicks fails to mention density, let alone average density relative to the fully densified mass density. While it might be true that the physical range of a coating's average density is a factor within the range from 0 – 1.00 of the fully densified mass density of the coating, it does not mean that the physical range is disclosed in Hicks. Hicks does not disclose the density. Therefore, Hicks does not provide a context for evaluating the significance of the portion of the density range claimed by Appellant.

On page 6 of the Examiner's Answer, the Examiner cited case law on "overlap of ranges" and stated "Since applicant's range covers over half of the prior art range, a prima facie case of obviousness exists. It would have been obvious to perform routine experimentation to determine the optimal parameters." This is misleading and reflects clear error. First, the Examiner based his blatantly faulty obviousness rejection on the mistaken presumption that Hicks discloses the physical range of the average density relative to the fully densified mass density when Hicks fails to even mention density. The case law "overlap of ranges" applies when the claimed ranges overlap or lie inside ranges disclosed by the prior art, but no range has been disclosed by Hicks. The Examiner concluded obviousness because the claimed range is over half of the physical range 0-1.00 without any further explanation.

The Examiner further asserts on page of the Answer that "It would have been obvious to perform routine experimentation to determine the optimal process parameters." With all due respect, the Examiner has failed to explain what parameters should be used to determine this. The approaches of Hicks and Appellant are different from each other. Hicks is based on low migration of dopants, while Appellant's approach is based on diffusion of dopants from a highly

doped coating. The Examiner's position is clearly deficient due to a lack of specifying what possible parameters should be used to perform this asserted optimization.

The Examiner has not and cannot point out any good reason why one of ordinary skill would pursue densities within the claimed range of the physical range. There is simply no recognized problem or need in the art that would require one of ordinary skill to create a coating with an average density that is a factor within the range from about 0.02 to about 0.55 of its fully densified mass density.

#### Error of Law Relating to Coating Composition

On page 5 of the Examiner's Answer, the Examiner states "Miller from col. 3, lines 64 to col. 4, lines 17, as well claim 2 (and lines 9-10 of claim 1) which reasonably discloses using combinations of rare earths and non-rare earths in glass. See also col. 1, lines 43-44 which indicate that non-rare earths are common modifiers in glass. It would have been obvious to include the common modifiers/dopants for any of their well-known modifying abilities in the Hicks soot perform, and then consolidate the interior, but leave the outer coating layer intact." This might be a correct interpretation of Miller, but it fails to address the claimed feature Examiner cited it for. The claim recites "wherein the coating on the core structure comprises...a rare earth element **and** a dopant comprising a metal element that is not a rare earth element."

Miller discloses a laundry list of different oxides that includes metals that are rare earth elements and non-rare earth elements for forming glasses, but Miller does not disclose using **both** a rare earth element **and** a non-rare earth element in forming the same glass structure. Miller's examples are directed to the use of one metal that is a non-rare earth element, two metals both of which are non-rare earth elements, or one metal that is a rare earth element in a single glass structure.

#### Errors of Fact and Law Relating to Coating and Core Compositions

On page 5 of the Examiner's Answer, the Examiner stated "It is noted that at page 15, lines 2-3 Appellant admits that Hicks implies the coating and core should have the same composition. Examiner points this out as an admission that one would understand that if one

were using a rare earth plus other dopant in the core, one would understand that the coating would also have the same dopants in the coating.” These statements are misleading and irrelevant to the feature being addressed. First, the feature is directed to the coating comprising a rare earth element and a metal that is not a rare earth element NOT whether the coating and core has the same composition. Second, the claim recites a feature that is in direct opposition to the alleged admission. The claim recites “the coating and the core structure have different dopant compositions,” and the Examiner concedes that Hicks discloses that the coating and core has the same composition.

In the bridging paragraph between page 12 and page 13 of the Answer, the Examiner somehow converts Appellant's analysis relating to the claimed reference to different dopant compositions into something vaguely relating to whether or not the compositions are the same. First it is not at all clear what the Examiner's assertions relating to index of refraction have to do with the claim language relating to different dopants. It is even less clear what "channels, webs and other structures" have to do with dopant levels. The Examiner's arguments are completely irrelevant to the issues relating to the claim language.

With all due respect, the Examiner's assertions in the full paragraph on page 13 are not understandable. The Examiner "tends to agree" that the Examiner's analysis of the term "dopant composition" is unreasonable, but then states that this is "an irrelevant standard." The Examiner then states that the claims are read in light of the specification and art. With all due respect, there is nothing in Appellant's specification that changes the ordinary meaning in the art of the terms "dopant concentration." And the Appellant has repeatedly pointed out serious errors in the Examiner's analysis.

Then, the Examiner wanders astray due to Appellant's statement that the core can be undoped. If the core is undoped and the coating is doped, then the core and the coating clearly have different "coating compositions." No person of skill in the art would have any problems with this analysis. Appellant respectfully cannot understand the Examiner's inability to grasp this concept of dopant composition. The Examiner further asserts that "Applicant offers no analysis as to the meaning of 'dopant composition.'" With all due respect, "dopant composition" has its plain meaning as would be understood by a person of ordinary skill in the art.

On page 7 of the Examiner's Answer, the Examiner stated that "See Hicks, col. 4, lines 2-7 which teaches adding dopants where desired. Thus Hicks clearly envisioned not having the same exact dopant composition identical throughout the rod. They may be desired in some locations, and not in others. Thus given a dopant composition on the outer layer, it is clear that there is at least one location in the consolidated portion which has a different dopant composition." These statements are misleading. Just because Hicks teaches that dopants can be added, it does not mean that the rod would have varying compositions at different locations of the rod. The standard is not what the prior art could envision or could do but what the prior art discloses. It is further noted that on page 6 of the Examiner's Answer, the Examiner stated in direct contradiction to the statements currently be addressed that "Appellant admits that Hicks implies the coating and core should have the same composition."

On page 7 of the Examiner's Answer, the Examiner cited case law on "elimination of a step or an element and its function" and stated "Alternatively and/or additionally, since Appellant states on page 15, at line 19, that the core can be undoped, this is deemed to be an admission that an undoped section still has a 'dopant composition.' Such would be obvious, because it would have been obvious to eliminate the use of dopant in a given portion of the Hicks preform, if the dopant function were not desired in that portion." This is confusing, misleading, and contrary to previous statements made by the Examiner. The Examiner's application of the case law "elimination of a step or an element and its function" changes the principle of operation behind Hicks' method of forming an optical fiber preform. Hicks' is directed to forming a core and cladding to provide a sharp step change in the index of refraction or a clean interface between the core and cladding. Adding the optional dopant to the core and its coating and removing it from the either only the core or the coating would change the principle of operation behind Hicks because the coating would prevent the clean interface between the core and the cladding.

#### Error of Law in Picking Teachings from Kobayashi

On page 14 of the Answer, the Examiner correctly notes that a reference can be used for all that it teaches, but then the Examiner selectively picks from Kobayashi what supports his

position and discards closely related teachings that do not support his position. The Examiner cites Kobayashi for it teaching "of laser methods over flame methods." Yet, the Examiner then ignores the teaching in Kobayashi of direct impingement of the laser "to avoid the dense layer." What the Examiner has failed to show is a reference teaching of laser methods without direct impingement over flame methods. The Examiner is ignoring closely related teachings in Kobayashi without any justification contrary to the instructions from KSR and Graham.

#### CONCLUSIONS AND REQUEST FOR RELIEF

Appellant submits that the pending claims are not rendered prima facie obvious over the combined teachings of the cited references. Appellant believes that the Patent Office has failed to meet their burden of persuasion with respect to unpatentability of any of the claims on the present record. Thus, Applicants respectfully request the reversal of the rejections of claims 20, 25, 26, 31-39, 41 and 43-48.

Respectfully submitted,

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